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GEOGRAPHICAL PUBLICATIONS

(Reviews and Titles of Books, Papers, and Maps)

For key to classification see "Explanatory Note" in Vol. II, pp. 77-81

NORTH AMERICA

UNITED STATES

South-Central States

LOWE, E. N. **Mississippi: Its geology, geography, soils, and mineral resources.** 335 pp.; maps, ills., index. *Mississippi State Geol. Survey Bull. No. 12.* Jackson, 1915. 9 x 6½.

This is a popular treatise on the geography of the state by the state geologist (who is a native of Mississippi and writes from long experience), mostly a reprint and revision of his *Bulletin 8*, on soils, with about 100 additional pages from other sources. Besides the topics indicated in the title and relating exclusively to Mississippi, there are about 55 pages on the formation of rocks and soils, historical geology in general, soil classification and management, and soil erosion; most of which will doubtless be useful to readers not provided with geological textbooks.

The state is very diversified, in spite of the absence of mountains, and is divided by Lowe into nine or ten "physiographic regions"; but the map of them on page 164 is entitled "soil regions," and it harmonizes perfectly as far as it goes with the colored geological map at the end of the volume and differs from the map of "forest regions" in *Bulletin 7* in only three or four of its boundaries and from that of the "soil and floral regions" on page 138 of *Bulletin 11* in the addition of only one line (separating the "pine meadows" along the coast from the long-leaf pine hills). There is little inconsistency in this, however, for geology, topography, soil, and vegetation are pretty closely correlated in Mississippi, as Hilgard showed long ago; but it would have been just as well to say natural or geographical regions.

Except for a small area of Paleozoic rocks in the northeastern corner, Mississippi is all underlain by Cretaceous and later strata of the Coastal Plain, and the different formations crop out in chronological order in approximately concentric belts, with the oldest at the northeast and the youngest along the coast, except for the broad "Yazoo delta," or Mississippi River flood plain, on the western side of the state.

As in *Bulletin 8* (published about two years earlier), a little more than 100 pages is devoted to the description of the nine regions. The order of treatment for the larger regions is: boundaries, topography, soils, native vegetation, agriculture, and recommendations for improving farm practices. Under the head of soils there are usually mechanical and partial chemical analyses of one or two typical samples (localities not specified), the mechanical analyses taken from government soil surveys and the chemical analyses mostly from Hilgard's reports in the Tenth Census and earlier. The vegetation is described in more detail than one usually finds in geological and geographical publications (doubtless on account of the excellent example set by Dr. Hilgard in his reports on the same state) and with technical names of the plants given in most cases, but the treatment is not very thorough or scientific. There is too little indication of relative abundance; native plants and weeds are not always distinguished; some of the species are wrongly identified; and a rather antiquated nomenclature is used, with some essentially fictitious English names taken from Northern books rather than from local usage.

Under the head of agriculture it would have been very appropriate to mention the proportion of cultivated land in each region and the average expenditure per acre for fertilizers, which in 1909-10 varied (inversely with soil fertility) in different regions from less than a cent in the "delta" to over $2 in the three coast counties. Some regional statistics of density and color of population, rate of increase, value of farm land and buildings, etc., would also have brought out some interesting contrasts and taken up little space.

From a geographical point of view it would have been better to separate the western parts of the north-central plateau and long-leaf pine hills, which are covered with loess or something akin to it, from the loess-free eastern portions, instead of adhering strictly to the boundaries of the Tertiary formations, for the loess makes a considerable difference in soil fertility and therefore in vegetation and civilization. From limited observations in the field the reviewer is inclined to believe that a strip 15 or 20 miles wide at the northern edge of the long-leaf pine hills, north of an unmapped cuesta just south of Ellisville, could be correlated with the lime-sink region of Alabama, Florida, and Georgia. The islands along the coast are not considered in the regional descriptions nor shown at all on the outline map; but if they were a little larger they would deserve to be treated as a distinct region.

Climate is discussed in a chapter by itself, covering less than two pages, which seems inadequate for such a diversified area. In the northwestern portion of the state, where the richest soils are, most of the rain comes in winter and spring; while in the extreme south, where poor sandy soils and long-leaf pine forests prevail, late summer is the rainy season. April, May, October, and November are generally the driest and pleasantest months throughout the state. Nothing is said in the chapter on climate about floods, tornadoes, and hurricanes, whose frequency varies greatly in different regions; but floods and tornadoes are most frequent in the regions of rich soil (and still more so in other states farther up the Mississippi Valley), and hurricanes in the late summer rain belt near the coast.

In the appendixes are 76 very incomplete soil analyses (which do not even mention potash, lime, magnesia, or iron), a table of population of the counties and principal towns in 1900 and 1910, about two pages of agricultural and manufacturing returns for the state as a whole (taken from the latest U. S. Census), an alphabetical list of nearly 400 places whose altitudes are known, a list of fossil localities, and notes on navigable streams. The highest town mentioned is Holly Springs, 602 feet above sea level; but there are many exceeding 400 feet even in the southern half of the state.

In spite of its minor shortcomings, this bulletin will doubtless serve a useful purpose in putting a large store of important facts about their environment within easy reach of citizens of the state who have little acquaintance with scientific literature.

ROLAND M. HARPER

GRONERT, T. G. **Trade in the blue-grass region, 1810-1820.** *Mississippi Valley Hist. Rev.*, Vol. 5, 1918, No. 3, pp. 313-323. Cedar Rapids, Iowa.

WINTER, N. O. **Texas, the marvellous.** xii and 343 pp.; map, ills., bibliogr., index. The Page Co., Boston, 1916. $3.00. 9½ x 6½.

—— [*Topographic map of the United States.*] 1:62,500. Sheets: (1) ***Bullis Gap,*** (2) ***Dove Mountain, Tex.*** U. S. Geol. Survey, Washington, D. C., 1918.

MEXICO AND CENTRAL AMERICA

CALVERT, A. S., AND P. P. CALVERT. **A year of Costa Rican natural history.** xix and 577 pp.; maps, ills., bibliogr., index. The Macmillan Co., New York, 1917. $3.00. 9 x 6.

Costa Rica, in relation to her geography and natural history, is one of the most thoroughly investigated sections of Central America. Her situation on both watersheds of the continental divide gives her the rare privilege of presenting within a small area the two main climatic types of the tropics, that is to say perennial rain on the Atlantic slope and well-differentiated seasons—a dry one lasting from December to April and a wet one covering the remainder of the year—on the slope looking toward the Pacific. The topography of the country is unusually irregular, ranging in altitude between sea level and 3,800 meters.

In consequence of such favorable conditions the small territory of Costa Rica offers an epitome of the whole of tropical America, with widely diversified flora and fauna, in which plants and animals of the surrounding countries are largely represented in association with a strong endemic contingent.

It is not strange, therefore, that such a country should have long attracted the attention of naturalists and geographers, the results of whose investigations form an already extended series of scientific contributions. The delightful book in which Mr. and Mrs. Philip P. Calvert now present the results of their special work during one year of residence in Costa Rica is a valuable addition to the list. Besides detailing in many captivating pages their interesting observations of insect and plant life, the work includes a good general description of the central part of the republic and a vivid account of the tremendous earthquake of 1910, which resulted in the complete destruction of Cartago and of which the authors were unwilling witnesses.

From the geographic standpoint the most interesting chapters are those containing the narrative of an excursion to Guanacaste, the northwestern province of Costa Rica, situated between the great continental divide and the Pacific Ocean. These chapters are full of valuable descriptive information about this little-known section. Guanacaste seems to have been the southernmost point reached by the migratory flow descended from the Mexican plateau; it has kept to this day many customs and traditions which ought to be thoroughly investigated and recorded before they disappear entirely. The only subject thus far which seems to have attracted foreign explorers is the extensive graveyards of Nicoya, which are full of the highly prized relics of the Chichimecas but which represent only one side of a vast and as yet unexplored field teeming with folklore and alluring legends. The native customs, the local names of plants, animals, and places all have kept to a degree the imprint of these northern immigrants of faraway times. Furthermore, Guanacaste is noted for the picturesqueness of its landscapes interspersed with clear forests and savanas. Mr. Calvert, who took this trip in company with a traveling school board, repeatedly refers to the presence in almost every village of a formally built and well-kept schoolhouse, a feature which speaks highly of the progress of the country.

An extensive list of the scientific literature bearing on Costa Rica is included in the volume. Considering the variety of subjects touched upon by the authors, the inaccuracies are remarkably few. This work, stamped throughout with the sympathetic personal characteristics of the authors, will henceforward occupy a prominent place by the side of Belt's "Naturalist in Nicaragua," Wallace's "Tropical Nature," Spruce's "Botanist on the Amazon and Andes," and others, in the library of every student of tropical America. H. PITTIER

FLORES, TEODORO. **El tequesquite del Lago de Texcoco.** 61 pp.; map, ills. *Anal. Inst. Geol. de México No. 5.* Secretaria de Industria, Comercio y Trabajo, Mexico, 1918. [A peculiar saline material found in lacustrine deposits at several localities on the Mexican plateau.]

FOYE, W. G. **Notes on a collection of rocks from Honduras, Central America.** Map. *Journ. of Geol.*, Vol. 26, 1918, No. 6, pp. 524-531.

GALLO, JOAQUÍN. **La unificación de la hora en México.** *Bol. Soc. Mexicana de Geogr. y Estadística,* Vol. 7, 1918, No. 8, pp. 461-465. Mexico.

GARCÍA Y ALVA, FEDERICO. **Sonora y sus elementos naturales de riqueza: Su estado actual.** Ills. *Bol. Soc. Mexicana de Geogr. y Estadística,* Vol. 8, 1918, No. 1, pp. 151-203. Mexico.

SOUTH AMERICA

ECUADOR, PERU, BOLIVIA

REID, W. A. **Bolivia, the heart of a continent: A few facts about the country and its activities.** 54 pp.; map, ills. Prepared for the Bolivian Legation, Washington, D. C., 1916. 9 x 6.

A booklet chiefly of value to the traveler, giving in compact form the elementary facts about the country and its resources. It is accompanied by a map "showing forest and agricultural areas and mineral localities" on the scale of 65 miles to the inch. But the "agricultural areas" are not really shown. At least if the one color which might indicate them is so interpreted, then the cold *salinas* of the *altiplano* are "agricultural", and with them would be classified some of the highest and most barren peaks of the Central Andes. And why a forest at Potosí? Prepared for the Bolivian Legation, it ought to be the most reliable report that could be prepared; the map is an unworthy production.

LAVALLE Y GARCÍA, J. A. DE. **La contracorriente ecuatorial como causa determinante del fenómeno marino conocido con el nombre de "Aguaje".** *Bol. Soc. Geogr. de Lima,* Vol. 33, 1917, No. 3, pp. 313-330. [In the Bay of Callao and at other places on the Peruvian coast there occurs a phenomenon involving change in the color of the sea water and emanations of sulphureted hydrogen. The phenomenon is known to take place during the months December to April, the period during which the equatorial countercurrent is experienced. The normally cool waters off the coast of Peru abound in plankton. The organisms are susceptible to sudden and great changes in temperature such as take place when the countercurrent is developed. Under such circumstances the plankton is killed in great quantities, producing a turbidity of the water. Accumulated in the shallow bays, the plankton decomposes and gives rise to the gaseous emanations. Such is the explanation advanced here; actual proof must depend, as the author says, upon the collection of hydrographic data.]

MEANS, P. A. **Social conditions in the Piura-Tumbes region of northern Peru.** Ills. *Scientific Monthly,* Vol. 7, 1918, No. 5, pp. 385-399.

MILLER, L. E. **A glimpse into the Quichua country of southern Bolivia.** Ills. *Amer. Museum Journ.,* Vol. 17, 1917, No. 6, pp. 407-415.

NORDENSKIÖLD, ERLAND. **Die Bevölkerungsbewegung unter den Indianern in Bolivien.** *Petermanns Mitt.*, Vol. 63, 1917, April, pp. 108-112. [Abstracted in the *Review*, Vol. 4, 1917, p. 487.]

NORDENSKIÖLD, ERLAND. **Die östliche Ausbreitung der Tiahuanacokultur in Bolivien und ihr Verhältnis zur Aruakkultur in Mojos.** Ills. *Zeitschr. für Ethnologie*, Vol. 49, 1917, No. 1, pp. 10-20. Berlin.

—— **Peru: General descriptive data.** 31 pp.; ills. Pan American Union, Washington, D. C., 1916.

PORTOCARRERO, J. N. **Informe sobre el Valle de Chincha.** 56 pp.; maps, diagr. *Bol. Cuerpo de Ingenieros de Minas del Perú No. 92.* Lima, 1918. [A study of the water supply and means of its distribution in one of the numerous oasis valleys of the coastal desert of Peru.]

REID, W. A. **Bolivia's railways—progress and prospects.** Maps, ills. *Bull. Pan Amer. Union*, Vol. 45, 1917, No. 4, pp. 478-496.

SAVILLE, M. H. **Some unpublished letters of Pedro de la Gasca relating to the conquest of Peru.** Ills., bibliogr. *Proc. Amer. Antiquarian Soc.*, Vol. 27, 1917, Part 2, pp. 336-357. Worcester, Mass.

SINGEWALD, J. T., JR., AND B. L. MILLER. **The mining industry of Peru.** Map, ills. *Engineering and Mining Journ.*, Vol. 101, 1916, No. 20, pp. 845-850. New York.

SUTTON, C. W. **Irrigation and public policy in Peru.** *Proc. 2nd Pan Amer. Sci. Congr., Dec. 27, 1915, to Jan. 8, 1916,* Vol. 3, Section 3: Conservation of Natural Resources, pp. 840-854 (discussion, pp. 850-854). Washington, D. C., 1917.

SUTTON, C. W., AND J. N. PORTOCARRERO Y C. **Informe preliminar sobre un proyecto para irrigar las Pampas de Chimbote.** 18 pp.; map. *Bol. Cuerpo de Ingenieros de Minas del Perú No. 91.* Lima, 1918. [In the Peruvian desert along the Pacific coast there is an excellent climate, the soil is productive, when watered, and communication by ocean routes is easy. Ruins of ancient canals show that irrigation was more extensive in pre-Columbian days than at present. The Peruvian government by means of such surveys as this is attempting to augment the area under cultivation. Sugar and cotton are the principal products.]

UMLAUFF, A. F. **La región sísmica de Caraveli.** Map, diagrs. *Bol. Soc. Geogr. de Lima*, Vol. 31, 1915, No. 3, pp. 223-257.

WALLE, P. **L'industrie du pétrole au Pérou.** *Bull. Soc. de Géogr. Commerc. de Paris*, Vol. 40, 1918, No. 4-5-6, pp. 91-99.

EUROPE

BRITISH ISLES

DAVISON, CHARLES. **The Ochil earthquakes of the years 1900-1914.** Diagrs. *Proc. Royal Soc. of Edinburgh*, Vol. 36, 1915-16, Part 3-4, pp. 256-287. [The Ochils are hills of volcanic rock which rise out of the Scottish lowland near its northern rift border.]

DEWEY, HENRY. **On the origin of some river-gorges in Cornwall and Devon.** Maps, diagrs., ills. *Quart. Journ. Geol. Soc.*, No. 285, Vol. 72, 1917, Part 1, pp. 63-76 (discussion, pp. 74-76). London.

FARROW, E. P. **On the ecology of the vegetation of Breckland: II, Factors relating to the relative distributions of Calluna-heath and grass-heath in Breckland; III, General effects of rabbits on the vegetation; IV, Experiments mainly relating to the available water supply; V, Observations relating to competition between plants; VI, Characteristic bare areas and sand hummocks.** Diagrs., ills. *Journ. of Ecol.*, Vol. 4, 1916, No. 2, pp. 57-64; Vol. 5, 1917, No. 1, pp. 1-18; No. 2, pp. 104-113; No. 3-4, pp. 155-172; Vol. 6, 1918, No. 2, pp. 144-152. London. [Part I was listed in the *Review*, Vol. 1, 1916, p. 388. Breckland is a heath district in East Anglia which ''presents the nearest approach to continental steppe conditions to be found in Great Britain.'']

FAWCETT, C. B. **Edale: A study of a Pennine dale.** Map, diagrs., ill. *Scottish Geogr. Mag.*, Vol. 33, 1917, No. 1, pp. 12-25.

FAWCETT, C. B. **Natural divisions of England.** Map. *Geogr. Journ.*, Vol. 49, 1917, No. 2, pp. 124-141 (discussion, pp. 135-141). [Abstracted, with map, in the February, 1919, *Review*, pp. 114-115.]

FAWCETT, C. B. **The Middle Tees and its tributaries: A study in river development.** Maps, diagrs. *Geogr. Journ.*, Vol. 48, 1916, No. 4, pp. 310-323.

HOSGOOD, BLANCHE. **Southern Forfarshire: A regional study.** Map, diagrs., bibliogr. *Scottish Geogr. Mag.*, Vol. 35, 1919, No. 1, pp. 15-29; No. 2, pp. 55-71.

INGLIS, H. R. G. **Early maps of Scotland and their authors (Maps in the Library of the Royal Scottish Geographical Society).** Maps. *Scottish Geogr. Mag.*, Vol. 34, 1918, No. 6, pp. 217-230; No. 10, pp. 378-386; Vol. 35, 1919, No. 2, pp. 41-46. [The third instalment is accompanied by notes, by M. C. Andrews, on the earliest-known printed map of Scotland. See note in the April, 1919, *Review*, p. 266.]

JEFFREYS, HAROLD. **On the vegetation of four Durham coal-measure fells, III: On water-supply as an ecological factor.** Diagrs., ills. *Journ. of Ecol.*, Vol. 5, 1917, No. 3-4, pp. 129-154. London. [Parts I and II, although not so marked, make up the instalment listed under "Jeffreys" in the *Review*, Vol. 5, 1918, p. 251.]

MARR, J. E. **The geology of the Lake District and the scenery as influenced by geological structure.** xii and 220 pp.; maps, diagrs., ills., index. University Press, Cambridge, 1916. 12s. 9 x 6. [The student of geography will be interested in the discussion of the influence of geological structure and geological events upon the physical features of the region. Here are condensed descriptions of the great variety of topographic forms, originally due to ice action, which contribute to the beauty of a famous English "playground."]

MORT, FREDERICK. **The rivers of south-west Scotland.** Maps. *Scottish Geogr. Mag.*, Vol. 34, 1918, No. 10, pp. 361-368.

NEWLANDS, ALEXANDER. **Water power in Great Britain (with special reference to Scotland): Its amount and economic value.** Map. *Journ. Royal Soc. of Arts*, No. 3401, Vol. 66, 1918, Jan. 25, pp. 168-188 (discussion, pp. 186-188). London. [With a map and statistical estimates.]

NEWNHAM, E. V. **The persistence of wet and dry weather.** Diagrs. *Quart. Journ. Royal Meteorol. Soc.*, No. 179, Vol. 42, 1916, pp. 153-161 (discussion, pp. 161-162). London. ["In this paper an attempt is made to analyze the rainfall records of several British stations with the help of modern statistical methods, in order to find out to what extent the tendency for wet and fine days or hours to occur in 'runs' can assist in forecasting rain in the near future."]

PEARSALL, W. H. **The aquatic and marsh vegetation of Esthwaite Water.** Maps, diagrs., bibliogr. *Journ. of Ecol.*, Vol. 5, 1917, No. 3-4, pp. 180-202; Vol. 6, 1918, No. 1, pp. 53-74. London.

RICHARDSON, RALPH. **The new Parliamentary division of Scotland, under the Representation of the People Act, 1918.** *Scottish Geogr. Mag.*, Vol. 34, 1918, No. 8, pp. 294-298.

SHAW, NAPIER. **Illusions of the upper air.** Map, diagrs., ills. *Proc. Royal Inst. of Great Britain*, No. 110, Vol. 21, Part III, 1918, pp. 603-624. [A discourse delivered March 10, 1916, reviewing the progress of meteorological theory in England since 1866. A report of it was published in *Nature*, Vol. 97, 1916, pp. 191-194 and 210-213. An extract also in *Scientific American Suppl.*, No. 2147, Vol. 83, 1917, Feb. 24, pp. 124-126.]

SMITH, WILLIAM G. **The distribution of *Nardus stricta* in relation to peat.** Map, ills., bibliogr. *Journ. of Ecol.*, Vol. 6, 1918, No. 1, pp. 1-13. London. [Refers to North Britain.]

STIRLING-MAXWELL, J. M. **Afforestation.** Ills. *Scottish Geogr. Mag.*, Vol. 33, 1917, No. 3, pp. 97-108. [In Britain.]

STRAHAN, AUBREY. **The search for new coal-fields in England.** Maps, diagrs. *Proc. Royal Inst. of Great Britain*, No. 110, Vol. 21, Part III, 1918, pp. 625-638.

WHITLEY, D. G. **The early tin trade of Cornwall according to Strabo's geography.** *Trans. Royal Geol. Soc. of Cornwall*, Vol. 13, 1914, Part X, pp. 595-610. Penzance. [An attempt to prove, from Strabo's description, that the Cassiterides of the Phenicians were the Scilly Islands. In Vol. 13, 1912, Part VIII, pp. 515-529, of the same publication the author discussed the statements of Herodotus and Himilco, the Carthaginian, relating to the same subject.]

—— **Wool, The command of (British).** *Journ. Royal Soc. of Arts*, No. 3375, Vol. 65, 1917, pp. 617-619. London.

YAPP, R. H., D. JOHNS, AND O. T. JONES. **The salt marshes of the Dovey Estuary.** Maps, diagrs., ills., bibliogr. *Journ. of Ecol.,* Vol. 4, 1916, No. 1, pp. 27-42; Vol. 5, 1917, No. 2, pp. 65-103. London.

BACON, G. W. ***Bacon's commercial map of Great Britain showing all railways and stations, canals, navigable rivers, main roads & steamship routes.*** 1:554,400, or 8¾ miles to 1 inch. Insets: Birmingham, Bristol & Bath, Cardiff & Merthyr, Leeds & Bradford, Newcastle, Sheffield, each about 1 inch to 4 miles; Liverpool, Manchester, each about 1 inch to 3 miles; London, 1 inch to 2 miles. G. W. Bacon & Co., London, [1916]. [Valuable for its differentiation of railroad systems by colored symbols.]

GERMANY[1]

BALCH, T. W. **The question of Alsace and Lorraine.** 89 pp.; map, ills., bibliogr., index. Allen, Lane, & Scott, Philadelphia, 1918. 10 x 7.

The name of Alsace-Lorraine stands for more than a mere boundary rectification. It is symbolic of a principle which men of eastern and western nations have rushed to defend. Hence these pages, many of which are products of the author's personal observations, derive peculiar significance. But the importance of their subject matter is not their sole attraction. They are flooded with human sympathy and historical interest. The blend of these qualities makes the book a valuable one.

In a simple style Mr. Balch gives a picture of Alsace-Lorraine as he saw the provinces on the occasion of trips made within the past twenty years. His observations shed light on the failure of race or language to produce that feeling of kinship which we call nationality when ideals of civilization are at stake. He shows us that the natives had greater sympathy with France than with Germany simply because they were convinced, even though many of them spoke a Teutonic language or were Teutons, of the superiority of French standards.

As a problem of environmental influences the subject is of deep interest, perhaps because it can be examined with greater profit everywhere along debatable border zones. In this light Alsace-Lorraine represents a phase in the spread of democratic ideals in Europe. The geographer is reminded of the fact by the perusal of local descriptions such as are to be found in this book. Therein lies the value of the outsider's contribution to geography, and Mr. Balch well deserves credit for his share.

LEON DOMINIAN

ANFOSSI, GIOVANNI. **L'isola di Helgoland e l'erosione marina.** Map, diagrs., ills. *Boll. Reale Soc. Geogr.,* Vol. 5, 1916, No. 2, pp. 101-121. Rome.

BELLOC, HILAIRE. **The bridge-heads of the Rhine.** Maps. *Land and Water,* No. 2953, Vol. 72, 1918, December 12, pp. 3-6. London. [A discussion of the strategic value of these river crossings.]

BRECKWOLDT, JOHN. **Die hydrographischen Veränderungen in Schleswig-Holstein.** Map, bibliogr. *Schriften des Naturwiss. Vereins für Schleswig-Holstein,* Vol. 16, 1914, No. 1, pp. 44-164. Kiel.

CRONHEIM, PAUL. **De nieuwste kartelvorming in Duitschland.** *Tijdschr. voor Econ. Geogr.,* Vol. 7, 1916, No. 5, pp. 222-223. The Hague.

EICHLER, J., R. GRADMANN, AND W. MEIGEN. **Ergebnisse der pflanzengeographischen Durchforschung von Württemberg, Baden und Hohenzollern.** Maps. *Beilage zu Jahreshefte des Vereins für Vaterländische Naturkunde in Württemberg und Mitt. des Badischen Landesvereins für Naturkunde und Naturschutz,* Vol. 70, 1914, No. 6, pp. 317-388. Stuttgart.

FELS, EDWIN. **Der heutige Stand der Kenntnisse über die bayerischen Seen.** Bibliogr. *Mitt. der Geogr. Gesell. in München,* Vol. 9, 1914, No. 3, pp. 375-400.

FLEURE, H. J. **Berlin and its region.** 15 pp.; maps. Contributed as a basis for discussion to the Sociological Society (Cities Committee), [Oct., 1915]. Sherratt & Hughes, London, 1916. [Abstracted, with map, in the *Review,* Vol. 3, 1917, pp. 399-401.]

HELLMANN, G. **Häufigkeit und Dauer der Niederschläge.** *Meteorol. Zeitschr.,* Vol. 33, 1916, No. 9, pp. 391-398. Brunswick. [Relates to Germany.]

JAHN, MARTIN. **Die Bewaffnung der Germanen in der älteren Eisenzeit etwa von 700 v. Chr. bis 200 n. Chr.** x and 276 pp.; maps, diagrs., ills., bibliogr., index. (Mannus-Bibliothek, No. 16.) Curt Kabitzsch Verlag, Würzburg, 1916. M. 7. 10 x 7½.

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[1] The territorial changes of the peace treaty will be taken into account in the next volume of the *Review.*—EDIT. NOTE.

KUNISCH, ERWIN. **Der Gardersee und Gr. Dolgensee. Mit einem Anhang: Ein Beitrag zur Kenntnis des Lebasees.** Maps, diagrs., ills., bibliogr. *Jahresbericht der Geogr. Gesell. zu Greifswald,* Vol. 13, 1911-12, pp. 149-233. [Two coastal lakes of Pomerania.]

LACHMANN, G. **Die Höhe der Schneedecke in Norddeutschland.** Maps. *Meteorol. Zeitschr.,* Vol. 33, 1916, No. 7, pp. 289-305. Brunswick.

LEVIN, EMIL. **Zur Klimatologie und Hydrologie des Peenegebietes (Abflussvorgang der Peene).** Map, diagrs., bibliogr. *Jahrbuch für die Gewässerkunde Norddeutschlands, Besondere Mitt.,* Vol. 2, 1914, No. 8, pp. 1-51. Preussische Landesanstalt für Gewässerkunde, Berlin. [The Peene, draining a number of small lakes in the Baltic moraine, flows eastwards into the Swinemünde lagoon.]

—— **Mitteilungen aus der Forst- und Kameralverwaltung für das Wirtschaftsjahr 1909.** Diagrs. *Beiträge zur Statistik des Grossherzogtums Hessen,* Vol. 61, 1911, No. 4, pp. 1-46; **Wirtschaftsjahr 1910,** Vol. 62, 1912, No. 2, pp. 1-43; **Wirtschaftsjahr 1911,** Vol. 62, 1913, No. 6, pp. 1-44; **Wirtschaftsjahr 1912,** Vol. 64, 1914, No. 1, pp. 1-48. Grossh. Hessische Zentralstelle für die Landesstatistik, Darmstadt.

MÜNS, R. **Über Ionisation und Radioaktivität der Atmosphäre in Kiel.** Diagrs., ill. *Schriften des Naturwiss. Vereins für Schleswig-Holstein,* Vol. 16, 1914, No. 1, pp. 1-43. Kiel.

MYLIUS, H. **Berge von scheinbar ortsfremder Herkunft in den bayerischen Alpen.** *Mitt. der Geogr. Gesell. in München,* Vol. 9, 1914, No. 3, pp. 435-478.

PRAESENT, HANS. **Die landeskundliche Literatur von Vorpommern und Rügen, 1906-1912.** *Jahresbericht der Geogr. Gesell. zu Greifswald,* Vol. 13, 1911-12, pp. 107-148.

SCHENK, RUDOLF. **Zur Oberflächengestaltung und Siedelungskunde des hessischen Riedes.** Maps, bibliogr. *Jahresbericht des Frankfurter Vereins für Geogr. und Statistik,* Vol. 77 and 78, 1912-13 and 1913-14, pp. 5-120. Frankfort on the Main, 1914. ["By the term 'Hessian Ried' is here meant the northern part of the Middle-Rhine graben valley which belongs politically to Hesse."]

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—— **Befolkningens fördelning efter yrke och näring i Helsingfors, Åbo, Viborg, Tammerfors, Nikolaistad, Björneborg, och Uleåborg, den 7 december 1910.** 48 and 68 pp. *Befolkningsstatistik,* No. 48, Vol. 6, 1916. Finlands Officiella Statistik, Helsingfors. [Population distribution according to occupation and trade.]

ENGSTRÖM, E. O. **Flodvågen i Dalälfven våren 1916.** 9 pp.; diagrs. Abstract from *Teknisk Tidskr., Väg- och Vattenbyggnadskonst,* 1916, No. 11. Hydrografisk Byrå, Stockholm, 1916. [Floods in the Dal Älf lake system, which discharges into the Gulf of Bothnia southeast of Gäfle in 60° 40′ N.]

—— **Finlands folkmängd den 31 december 1910 (enligt församlingarnas kyrkoböcker). Vol. 2: Den närvarande befolkningens fördelning efter yrke och näring.** 88 and 99 pp. *Befolkningsstatistik,* No. 47, Vol. 6, 1916. Finlands Officiella Statistik, Helsingfors. [Population of Finland according to parish registers: present distribution of the population according to occupation and trade.]

FRAHNE, CARL. **Das Wirtschaftsleben Schwedens. Ein Ueberblick auf statistischer Grundlage unter besonderer Berücksichtigung der deutsch-schwedischen Wirtschaftsbeziehungen.** 167 pp.; map, diagrs., bibliogr. Emil Ebering, Berlin, 1914.

GERAIN, LOUIS. **"L'évaluation de la mer" dans les eaux danoises.** Map. *La Géographie,* Vol. 31, 1916-17, No. 4, pp. 261-269. Paris. [Valuation from a biological point of view.]

GRÖNWALL, K. A. **De skånska stenkolsfälten och deras tillgodogörande.** Maps, diagrs., ills. Reprint from *Populär Naturvetenskaplig Revy,* 1915, No. 3-6, pp. 115-193. Sveriges Geologiska Undersökning, Stockholm. [The anthracite coalfields of Scania, Sweden, and their utilization.]

HILDEBRANDSSON, H. H. **Om de stundom om vintern förekommande våldsamma oststormarna från de norska fjällen.** Maps, diagr. *Ymer,* 1917, No. 1, pp. 36-49. [Winter storms.]

LA COUR, D. **Abnorme Vandstandsforhold i de danske Farvande. 1: Vandstandsforholdene den 15'-16' Januar 1916.** 83 pp.; maps, diagrs. *Dansk Meteorol. Inst. Meddelelser No. 4.* Copenhagen, 1917. [Abnormal water levels in the Danish fairways.]

—— **1914 års torka och dess inverkan på sjöarnas avlopp.** (La sécheresse de l'année 1914 et son influence sur l'écoulement des lacs.) *Hydrogr. Byrån Årsbok,* 1914, No. 6, pp. 25-72. Map, diagrs. Stockholm, 1917.

NORDÉN, ARTHUR. **Hällristningarnas kronologi och betydelse.** Ills. *Ymer,* 1917, No. 1, pp. 57-83. [Date and meaning of pictured rocks in Scandinavia.]

RABOT, CHARLES. **L'hiver 1917 dans la Scandinavie.** *La Nature,* No. 2273, 1917, Apr. 21, pp. 248-249. [Abstracted in the *Review,* Vol. 4, 1917, pp. 319-320.]

RABOT, CHARLES. **L'hiver de 1917 en Norvège et en Suède.** *La Géographie,* Vol. 31, 1916-17, No. 5, pp. 343-349. Paris.

STÖRMER, CARL. **Summary of results of the aurora-borealis expedition of 1913 to Bossekop, Norway.** Maps, diagrs. *Terrestr. Magnet. and Atmospher. Electr.,* Vol. 21, 1916, No. 4, pp. 157-168. Washington, D. C.

WALLÉN, AXEL. **Nederbördens och temperaturens inflytande på Dalälfvens vårhögvatten och vinterlågvatten.** Diagrs. Reprint from *Hyllningsskr. tillägnad J. G. Richert,* pp. 130-160. Hydrografisk Byrå, Stockholm, 1917. [Influence of rain and temperature on spring high water and winter low water of the Dal Älf lake system. See entry under "Engström," above.]

WALLÉN, AXEL. **Sveriges vattensystem.** 14 pp.; map, diagr., ills. Hydrografisk Byrå, Stockholm, 1916. (Abstract from "Sveriges Land och Folk," edited by J. Guinchard; see *Geogr. Rev.,* Vol. 1, 1916, p. 317.) [Hydrographic system of Sweden.]

WALLÉN, AXEL. **Vattenståndsförutsägelserna: Granskning af 1915 års resultat och prognoser för år 1916.** 21 pp.; map, diagrs. Abstract from *Teknisk Tidskr., Väg- och Vattenbyggnadskonst,* 1916, No. 3. Hydrografisk Byrå, Stockholm, 1916. [Water level prediction.]

AFRICA

GENERAL

RÍO JOAN, FRANCISCO DEL. **África Occidental Española (Sáhara y Guinea).** 391 pp.; maps, diagrs., ills., index. Ministerio de Estado, Sección Colonial, Madrid, 1915. 6½ x 9.

The author is an engineer of distinction in the Spanish service. He was sent to the Spanish African possessions in 1914 to report upon their conditions. His book is packed with information, criticism, and suggestion.

He found Fernando Po still unoccupied for any purpose. The island comprises about 550,000 acres, and only one acre in twenty-two is under cultivation. Cacao is the principal crop, but it is harvested from only a small part of the lands adapted for its cultivation.

The author sees no prospect that Rio de Oro, Spain's possession in the Sahara, will ever be important. There is some trading with the desert natives, who bring ostrich feathers to exchange for a few European commodities, and the coastal fishery has considerable value. He speaks of Rio Muni, Spain's continental territory to the southwest of Fernando Po, as being scarcely known except along its boundaries. The fact is that the results of the primary surveys have not yet been published. The Spanish occupation has extended only along the coast and the lower courses of a few rivers. It will be remembered that when the Allies finally conquered Kamerun the Germans retreated into this Spanish territory, where they were not molested. A cartographic and statistical supplement accompanies the book. CYRUS C. ADAMS

BUXTON, NOEL. **The international factor in the African settlement.** *Contemporary Rev.,* No. 635, Vol. 114, 1918, November, pp. 513-520. London.

SHARPE, ALFRED. **The backbone of Africa.** Ills. *Geogr. Journ.,* Vol. 52, 1918, No. 3, pp. 141-157 (discussion, pp. 154-157). ["Survey of an imaginary journey . . . from the southern Indian Ocean to the Mediterranean."]

THIERRY, RENÉ. **L'Afrique de demain et le pangermanisme colonial.** *L'Afrique Française,* Vol. 28, 1918, No. 9-10, pp. 279-288. Paris.

CONGO BASIN AND LOWER GUINEA

SPRINGER, J. M. **Pioneering in the Congo.** xx and 312 pp.; map, ills. Methodist Book Concern, [New York], 1916. $1.00. 7½ x 5.

This book, by a missionary, is valuable from a geographical point of view because it contains much information as to the present economic development and the prospects of the large region between Lunda in the west and the great copper-mining region of Katanga in the east, roughly between 7° and 12° S. and 20° and 28° E. Mr. Springer observed a great change in the attitude of the Belgian government towards the natives, whose rights are now respected and whose welfare is promoted in striking contrast with the régime of the late King Leopold. Years ago that astute financier, Robert Williams, sent his prospectors 1,000 miles north of the railhead of the Cape-to-Cairo railroad to find the copper field that Livingstone had reported a generation before, now known as one of the greatest in the world. The two newspapers at Elizabethville, in this mining field, printed daily despatches on the European war, which were also sent forward by wireless to more remote regions. The whites in a large area of central Africa, south of the equator, are getting their morning news of European happenings earlier than we because they live so far east of us. The author has good grounds for his conviction that this large central area will have great development and that the natives will have their share in the work, not only as miners but also as farmers, craftsmen, and teachers.

CYRUS C. ADAMS

ASIA

RUSSIAN CENTRAL ASIA

FELL, E. N. **Russian and nomad: Tales of the Kirghiz Steppes.** xxvii and 201 pp.; ills. Duffield & Co., New York, 1916. $2.00. 8½ x 6.

It is a pity that Mr. Fell is not a geographer instead of a mining engineer. If he were a geographer he would have written a book which would take its place as a classic. Even without technical training in geography, and without any claim to writing a scientific treatise, he goes to the heart of the matter and gives one a deep glimpse into the very lives of the people.

Perhaps the best test of the value of a book is the number of times that one thinks of it after it is finished. The reviewer read Mr. Fell's book before the Russian situation had developed into Bolshevism. Since then he has thought of it again and again. Take these two quotations:

"Now there are two ways of carrying on the practical business of society; one is to assume that each individual is, in the nature of things, better suited than anybody else to take care of himself; and the other is to assume that there is, in the state somewhere far away in the distance, some personage, be he emperor or king or president, who is better able to take care of the individual than the individual himself. In Russia it was long ago decided by Ivan the Terrible or by Peter the Great or by some other personage of forceful character that the individual knows nothing at all of the way in which his business should be conducted."

"To the writer it seems that the Russian form of paternalism derives its force from below and not from above. It comes less from the desire of those in high authority to control the action of the masses than from the desire of the latter to impose on other shoulders than their own the responsibility of their actions. On the spiritual side, they rest their faith in God; on the practical side, they rely for guidance on some one in higher authority than themselves. The logical conclusion is: the authority of God in all things spiritual, and the authority of the 'Gosudar' (Czar) in all things temporal."

In these days when the fate of Russia is in the balance it is well to read books like this. In the fervor of the moment we think that Russia has changed. Perhaps that is true, but if Russia has changed, the *Russians* have not changed. Nor will they change for many generations.

Mr. Fell's book is by no means a philosophical treatise. On the contrary it is a delightful work of travel. The author lived in southern Siberia, not far from Lake Balkash, and was in charge of some large copper mines for a period of seven years or so. His book is a pleasant, chatty recital of his adventures among Russians and Kirghiz. He tells of sledge journeys with the thermometer thirty or forty degrees below zero; he vividly describes the beauty of the one month that can be called spring; and he speaks of a little pink flower which grows only in soil impregnated with copper and thus forms a sort of prospector's guide.

All through the book the Siberian winter keeps coming in as an undertone. "All winters are tedious when they are seven months long. The first dash of the frost giants over the hills in the autumn is inspiriting, and the first jangle of sleigh bells over the fresh snow makes the blood tingle, but before the first of May has come the fierce winds have swept bare the level places, and where the snow lies it is driven into ice drifts and glazed by the emery blasts of the ceaseless storms. The landscape looks tired and it is tired, and so are you. Your fur coat and felt overshoes are hateful burdens; the storm doors and windows oppress your house with an airless gasp; each year it seems as though spring were delayed and would never come."

Such conditions prevail in most parts of Russia. How much have they to do with the inertia which permits autocracy at one time and Bolshevism at another?

There is a brighter side to Mr. Bell's little book. It is the descriptions of the friendly, pleasant ways of both the Russians and the Kirghiz who work in the mines. To be sure, agitators who would now be Bolsheviki led them to strike and to be very unruly for a while, but that only makes a good story. On the whole, however, they are a most friendly folk, and one feels well acquainted with them when the book is laid down. The volume might well be longer. For example, it includes an account of a trip to Lake Balkash by Mrs. Vans Agnew, the daughter of Mr. Fell. That lake is so unfamiliar that her description is just enough to make one long for a fuller account of all the interesting life of the desert around its turquoise waters.

ELLSWORTH HUNTINGTON

AUSTRALASIA AND OCEANIA

AUSTRALIA, NEW ZEALAND

ANDERSSON, GUNNAR. **Australien, natur och kultur: Studier och minnen.** vii and 264 pp.; maps, diagrs., ills., index. Hugo Gerbers Förlag, Stockholm, [1916]. 7 kroner. 10 x 7.

Mr. Andersson deals with the possibilities of the fifth continent as a white man's land and its contribution to the world's sum of useful produce. The keynote of the book lies in the words: "The heroic deeds that form milestones in the history of Australia are not those of the battlefield. The heroes of Australia have waged their fight against thirst, against unending distances, against the wild silent forests where the eucalyptus formerly reigned undisputed lord of all. Their progress is marked by cleared ground, by millions and millions of sheep and cattle, by pleasant homes and rising cities."

The history of economic development in Australia is especially vital now in view of the inexhaustible supplies of food which that continent can pour into the depleted storehouses of the Old World. The author reminds us that Australia is only one and a quarter centuries old as a white man's land, and that it has a population of less than 5,000,000 in an area almost exactly equal to that of the United States. Yet the natural conditions are such as to demand the co-operative action usually found only in more closely settled communities.

Formerly the vast herds of sheep and cattle were utilized only for hides, wool, and tallow. In the sixties the canning industry was started; but the amount of meat that could be packed was wholly inadequate, and millions of carcasses still rotted in the bush while the poor people of Europe were famished. Finally, in the eighties, a process of freezing meat so that it could be transported across the ocean was perfected. Now great quantities of beef, mutton, and rabbit meat are frozen and exported, principally to England. (An illuminating picture is that of a farmer driving to the nearest freezing-plant with twelve hundred rabbits nailed to his wagon.) Australians have raised a monument to Thomas Sutcliffe Mort, who started the first experiment in freezing meat. Sheep in Australia in 1913 numbered over 83,000,000, the cattle about 10,500,000. The herds can be greatly increased, as the interior is made inhabitable. About 1,300 wells have been bored in the Great Artesian Basin in the northern and central part of the continent, and in this way it is possible to use for grazing vast stretches of land where the grass is nourishing but where lack of drinking water formerly kept out both men and animals.

Drought is the great enemy of the Australian farmer. In the eighties, an American firm, Chaffey Brothers, started the first artificial irrigation plants at two points on the Murray River, and this was the beginning of a rapid development. The great expense of the irrigation systems necessitates intensive farming, and the country in some sections is now divided into small farms and fruit ranches. The import and export of fruit are now about equal, but the export is rapidly gaining. The wheat area is being extended year by year from the western coast into the interior. The cultivation of concentrated fodder, principally alfalfa, makes it possible to keep two million cows where they can be milked instead of roaming wild in the bush, and this is the beginning of an Australian dairy industry. Indeed there seems no limit to the possibilities of the southern continent as a food-producer.

Mr. Andersson has some interesting chapters on the early history of the country, its political development, the discovery and exploitation of the gold fields, and the recent social legislation. The volume is excellently bound and has over eighty valuable charts, maps, and pictures of more than ordinary attractiveness. HANNA ASTRUP LARSEN

HUNT, H. A., edit. **Results of rainfall observations made in South Australia and the Northern Territory, including all available annual rainfall totals from 829 stations for all years of record up to 1917.** 421 pp.; maps, diagrs. Bur. of Meteorol., Commonwealth of Australia, Melbourne, 1918. 10s. 6d. 12 x 9½.

The activity of the Australian Commonwealth Bureau of Meteorology is remarkable. A steady stream of important publications continues to flow to the reviewer's desk. Even the war brought no interruption, only delay. The present volume is one of a series, of which three numbers (New South Wales, Victoria, and Queensland) have already been issued, leaving two more still to come (Western Australia and Tasmania). In the issue before us we have tabulations of all the available annual totals of rainfall and of wet days for 829 stations—surely a very large number considering the area concerned—up to the year 1917. For about 200 stations there are also monthly totals to 1915. Such complete information for these sections of Australia has not before been embodied under one cover. Owing to delays due to the war the annual totals for 1916 and 1917 appear in supplementary form. In order to have the work complete for reference and for comparison, authentic annual (for the individual years 1878-1917) and also average annual and monthly rainfall and monthly rainfall maps are included. There are notes on the annual variation and monthly distribution of the rainfall, and a record of notable meteorological events. The incidence of the summer and winter rainfalls and the resultant wheat yields in South Australia are given special attention, the date being presented in both tabular and map form. The monthly and annual meteorological elements and normals for Adelaide and Darwin are given in appendixes.

This mere enumeration of the contents of the volume will serve to show how very complete and extensive is the information it contains. There is a remarkable abundance of excellent maps and of diagrams. While the details are of immediate concern only to those who are making special studies of Australian weather and climate, the volume is one which surely deserves mention in the *Review*. Those who, for one reason or another, have occasion to look up the rainfall conditions of the Australian Commonwealth will realize their lasting indebtedness to Mr. Henry A. Hunt and to his excellent staff of assistants and observers. R. DEC. WARD

BELTRÁN Y RÓZPIDE, RICARDO. **Juan Fernández y el descubrimiento de la Australia.** *Rev. de Geogr. Colon. y Mercantil,* Vol., 15, 1918, No. 8-10, pp. 347-362. Real Soc. Geogr., Madrid.

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LEWIS, JOHN. **Our early pastoral possessions and the pioneers of settlement in South Australia.** Maps, ills. *Proc. Royal Geogr. Soc. of Australasia: South Australian Branch,* Vol. 17, 1915-16, pp. 8-92. Adelaide. [Presidential address.]

LEWIS, JOHN. **Some notes on the early navigation of the River Murray.** Map, ills. *Proc. Royal Geogr. Soc. of Australasia: South Australian Branch,* Vol. 18, 1916-17, pp. 2-104. Adelaide. [Presidential address.]

MORTENSEN, T. **Et besøg paa Auckland- og Campbell-Øerne.** Maps, ills. *Geografisk Tidskrift,* Vol. 23, 1916, No. 8, pp. 271-283. Copenhagen.

PARK, JAMES. **Pleistocene glaciation of New Zealand.** Ills. *Geol. Mag.,* Decade 6, Vol. 5, 1918, No. 9, pp. 394-397. London.

PICCOLI, L. L. **Lo sviluppo economico dell'Australia Occidentale.** *L'Esplorazione Commerc.,* Vol. 31, 1916, No. 11-12, pp. 425-435. Milan.

SCHLICH, WILLIAM. **Forestry in the Dominion of New Zealand.** *New Zealand Journ. of Sci. and Technol.,* Vol. 1, 1918, No. 4, pp. 201-210. Wellington.

SHUFELDT, R. W. **Captain White's recent exploratory work in Australia.** *Science,* No. 1144, Vol. 44, 1916, Dec. 1, pp. 793-795.

SLOANE, T. G. **On the faunal subregions of Australia.** Map. *Proc. Royal Soc. of Victoria,* Vol. 28, 1915, Part I, pp. 139-148. Melbourne.